

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
 - 2 capturing an image actually displayed via a display sighting system;
 - 3 computing at least one difference between the captured image and a recalled
 - 4 representation of the image theoretically displayed via the display
 - 5 sighting system; and
 - 6 presenting the computed at least one difference via a visual display device.

- 1 2. The method of Claim 1, wherein said computing at least one difference
 - 2 between the captured image and a recalled representation of the image theoretically
 - 3 displayed via the display sighting system further comprises:
 - 4 computing at least one angular difference between an angular orientation of
 - 5 the captured image and the recalled representation of the image
 - 6 theoretically displayed via the display sighting system;
 - 7 computing at least one centering difference between a center point of the
 - 8 captured image and the recalled representation of the image
 - 9 theoretically displayed via the display sighting system; or
 - 10 computing at least one focus difference between an optical power of the
 - 11 captured image and the recalled representation of the image
 - 12 theoretically displayed via the display sighting system.

- 1 3. The method of Claim 2, wherein the recalled representation of the
 - 2 image theoretically displayed via the display sighting system comprises a test pattern
 - 3 having at least one vertical line.

- 1 4. The method of Claim 2, wherein the recalled representation of the
 - 2 image theoretically displayed via the display sighting system comprises a test pattern
 - 3 having at least one horizontal line.

1 5. The method of Claim 2, wherein said presenting the computed at least
2 one difference via a visual display device further comprises:

3 presenting the at least one angular difference between an angular orientation
4 of the captured image and the recalled representation of the image
5 theoretically displayed via the display sighting system;

6 presenting the at least one centering difference between a center point of the
7 captured image and the recalled representation of the image
8 theoretically displayed via the display sighting system; or

presenting the at least one focus difference between an optical power of the
captured image and the recalled representation of the image
theoretically displayed via the display sighting system.

1 6. The method of Claim 1, wherein said computing at least one difference
2 between the captured image and a recalled representation of the image theoretically
3 displayed via the display sighting system further comprises:

4 computing at least one gray-shades-displayed difference between gray shades
5 of the captured image and gray shades of the recalled representation of
6 the image theoretically displayed via the display sighting system;

7 computing at least one field-of-view difference indicated by a difference
8 between a boundary location of the captured image and the recalled
9 representation of the image theoretically displayed via the display
0 sighting system; or

1 computing at least one predicted focus magnitude indicated by a difference
2 between brightness, contrast, and gray level of a captured image and
3 the recalled representation of the image theoretically displayed via the
4 display sighting system.

1 7. The method of Claim 6, wherein the recalled representation of the
2 image theoretically displayed via the display sighting system comprises a test pattern
3 having at least two gray shades.

1 8. The method of Claim 6, wherein said presenting the computed at least
2 one difference via a visual display device further comprises:

3 presenting the at least one gray-shades-displayed difference between gray
4 shades of the captured image and gray shades of the recalled
5 representation of the image theoretically displayed via the display
6 sighting system;

7 presenting the at least one field-of-view difference indicated by a difference
8 between a boundary location of the captured image and the recalled
9 representation of the image theoretically displayed via the display
10 sighting system; or

11 presenting the at least one predicted focus magnitude indicated by a difference
12 between brightness, contrast, and gray level of a captured image and
13 the recalled representation of the image theoretically displayed via the
14 display sighting system.

1 9. The method of Claim 1, wherein said capturing an image actually
2 displayed via a display sighting system further comprises:
3 capturing the image via a camera.

1 10. The method of Claim 9, wherein said capturing the image via a camera
2 further comprises:

3 capturing the image via a data acquisition card interposed between a narrow-
4 angle camera and a portable computer system; or

5 capturing the image via a data acquisition card interposed between a wide-
6 angle camera and the portable computer system.

1 11. A system comprising:
2 circuitry for capturing an image actually displayed via a display sighting
3 system, wherein said circuitry for capturing an image includes one or
4 more electrical circuits selected from the group including but not
5 limited to electrical circuits having at least one discrete electrical
6 circuit, electrical circuits having at least one integrated circuit,

7 electrical circuits having at least one application specific integrated
8 circuit, and electrical circuits providing at least one general purpose
9 computing device configurable by a computer program;
10 circuitry for computing at least one difference between the captured image and
11 a recalled representation of the image theoretically displayed via the
12 display sighting system, wherein said circuitry for computing includes
13 one or more electrical circuits selected from the group including but
14 not limited to electrical circuits having at least one discrete electrical
15 circuit, electrical circuits having at least one integrated circuit,
16 electrical circuits having at least one application specific integrated
17 circuit, and electrical circuits providing at least one general purpose
18 computing device configurable by a computer program; and
19 circuitry for presenting the computed at least one difference via a visual
20 display device, wherein said circuitry for presenting includes one or
21 more electrical circuits selected from the group including but not
22 limited to electrical circuits having at least one discrete electrical
23 circuit, electrical circuits having at least one integrated circuit,
24 electrical circuits having at least one application specific integrated
25 circuit, and electrical circuits providing at least one general purpose
26 computing device configurable by a computer program.

1 12. The system of Claim 11, wherein said circuitry for computing at least
2 one difference between the captured image and a recalled representation of the image
3 theoretically displayed via the display sighting system further comprises:
4 circuitry for computing at least one angular difference between an angular
5 orientation of the captured image and the recalled representation of the
6 image theoretically displayed via the display sighting system;
7 circuitry for computing at least one centering difference between a center
8 point of the captured image and the recalled representation of the
9 image theoretically displayed via the display sighting system; or
10 circuitry for computing at least one focus difference between an optical power
11 of the captured image and the recalled representation of the image
12 theoretically displayed via the display sighting system.

1 13. The system of Claim 12, wherein the recalled representation of the
2 image theoretically displayed via the display sighting system comprises a test pattern
3 having at least one vertical line.

1 14. The system of Claim 12, wherein the recalled representation of the
2 image theoretically displayed via the display sighting system comprises a test pattern
3 having at least one horizontal line.

1 15. The system of Claim 12, wherein said circuitry for presenting the
2 computed at least one difference via a visual display device further comprises:
3 circuitry for presenting the at least one angular difference between an angular
4 orientation of the captured image and the recalled representation of the
5 image theoretically displayed via the display sighting system;
6 circuitry for presenting the at least one centering difference between a center
7 point of the captured image and the recalled representation of the
8 image theoretically displayed via the display sighting system; or
9 circuitry for presenting the at least one focus difference between an optical
10 power of the captured image and the recalled representation of the
11 image theoretically displayed via the display sighting system.

1 16. The system of Claim 11, wherein said circuitry for computing at least
2 one difference between the captured image and a recalled representation of the image
3 theoretically displayed via the display sighting system further comprises:
4 circuitry for computing at least one gray-shades-displayed difference between
5 gray shades of the captured image and gray shades of the recalled
6 representation of the image theoretically displayed via the display
7 sighting system;
8 circuitry for computing at least one field-of-view difference indicated by a
9 difference between a boundary location of the captured image and the
10 recalled representation of the image theoretically displayed via the
11 display sighting system; or

00703425-103400

12 circuitry for computing at least one predicted focus magnitude indicated by a
13 difference between brightness, contrast, and gray level of a captured
14 image and the recalled representation of the image theoretically
15 displayed via the display sighting system.

1 17. The system of Claim 16, wherein the recalled representation of the
2 image theoretically displayed via the display sighting system comprises a test pattern
3 having at least two gray shades.

1 18. The system of Claim 16, wherein said circuitry for presenting the
2 computed at least one difference via a visual display device further comprises:
3 circuitry for presenting the at least one gray-shades-displayed difference
4 between gray shades of the captured image and gray shades of the
5 recalled representation of the image theoretically displayed via the
6 display sighting system;
7 circuitry for presenting the at least one field-of-view difference indicated by a
8 difference between a boundary location of the captured image and the
9 recalled representation of the image theoretically displayed via the
10 display sighting system; or
11 circuitry for presenting the at least one predicted focus magnitude indicated by
12 a difference between brightness, contrast, and gray level of a captured
13 image and the recalled representation of the image theoretically
14 displayed via the display sighting system.

1 19. The system of Claim 11, wherein said circuitry for capturing an image
2 actually displayed via a display sighting system further comprises:
3 circuitry for capturing the image via a camera.

1 20. The system of Claim 19, wherein said circuitry for capturing the image
2 via a camera further comprises:
3 circuitry for capturing the image via a data acquisition card interposed
4 between a narrow-angle camera and a portable computer system; or

5 circuitry for capturing the image via a data acquisition card interposed
6 between a wide-angle camera and the portable computer system.

1 21. An image capturing device comprising:
2 a Helmet Display Unit (HDU) holding fixture; and
3 at least one camera mounted proximate to the HDU holding fixture.

1 22. The image capturing device of Claim 21, wherein the Helmet Display
2 Unit (HDU) holding fixture comprises:
3 the Helmet Display Unit (HDU) holding fixture movable between at least two
4 positions.

1 23. The image capturing device of Claim 21, wherein the Helmet Display
2 Unit (HDU) holding fixture comprises:
3 the Helmet Display Unit (HDU) holding fixture is attached to a lever-spring
4 assembly.

1 24. The image capturing device of Claim 21, wherein said at least one
2 camera mounted proximate to the HDU holding fixture comprises:
3 at least one wide-angle and at least one narrow-angle camera.